M.Sc. BOTANY
Fourth Semester
ANGIOSPERM TAXONOMY
(MSB – 402 C)

Duration: 3Hrs.   **Full Marks: 70**

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.   **Marks: 50**

Answer any *four* from *Question no.* 2 to 8
Question no. 1 is compulsory.

1. What is type concept? Write a note on different kinds of types.   (2+8=10)

2. Write briefly about the aims and objectives of BSI. Add a note on publications of
   BSI.   (5+5=10)

3. What is synonym? With example explain the different kinds of synonyms. What is
   the status if a synonym of a species in nomenclature?   (2+5+3=10)

4. Write about the aim and objectives of Biosystematics. How Biosystematics differs
   from traditional taxonomy?   (5+5=10)

5. Define Herbarium. What are the different kinds of Herbarium? What are the
   functions of Herbarium?   (2+4+4=10)

6. What do you mean by Characters? Discuss about correlation of characters, synthetic
   characters and analytical characters.   (1+3+3+3=10)

7. Write briefly about the Adansonian and Neo Adansonian's Principles. (5+5=10)

8. Write a critical account on application of embryological features in taxonomy. (10)

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Duration: 20 minutes   **Marks – 20**

(PART A - Objective Type)

I. Choose the correct answer: **1×20=20**

a. Substitute of Holotype is known as:
   i) Paratype   ii) Lectotype
   iii) Syntype   iv) Isotype

b. The classification of Benthum and Hooker was published in:
   i) Species Plantarum   ii) Genera Plantarum
   iii) Die Naturlichen Pflanzenfamilien   iv) Systema Naturale

c. One of the best methods for understanding the general relationships of plants is:
   i) Cytotaxonomy   ii) Experimental Taxonomy
   iii) Numerical Taxonomy   iv) Chemotaxonomy

d. Kanjilal Herbarium (ASSAM) is located at:
   i) Guwahati   ii) Jorhat
   iii) Shillong   iv) Itanagar

e. Level of taxonomic study concerned with the biological aspects of taxa, including infraspecific populations, speciation, evolutionary rates and trends population:
   i) Alpha taxonomy   ii) Beta taxonomy
   iii) Theta taxonomy   iv) Gamma taxonomy

f. Which among the following is considered as a demerit of the Engler and Prantl' system of classification?
   i) Gymnosperms are placed between Monocotyledons and Dicotyledons.
   ii) Gymnosperms are placed among Dicotyledons.
   iii) Dicotyledons are placed before Monocotyledons.
   iv) Dicotyledons are placed after Monocotyledons.

g. Taxon is:
   i) A genus   ii) A species
   iii) A taxonomic unit   iv) A taxonomic category of any rank

h. In Melbourne Code one of the major changes to the Code of Nomenclature is:
   i) Made obligatory to describe a new taxon in Latin.
   ii) Made obligatory to describe a new taxon in English.
   iii) Made obligatory to describe a new taxon in French.
   iv) One can describe a new taxon either in Latin or in English.

i. Botanical Survey was reorganized in:
   i) 1954   ii) 1948   iii) 1950   iv) 1952

j. Indian Botanic Garden(IBG) at was established by:
   i) Robert Kyd   ii) George King
   iii) William Roxburgh   iv) N.Wallich

k. In Numerical Taxonomy Binary Characters refers to:
   i) Two divergent characters .
   ii) Two convergent characters.
   iii) Two contrasting states of characters.
   iv) None of the above.

l. "Stammbaum" is a term used in:
   i) Protein taxonomy   ii) Serotaxonomy
   iii) Cladestic analysis   iv) Phenitic analysis

m. Classification of organisms based on evolutionary as well as genetic relationships is called:
   i) Numerical taxonomy   ii) Phenetics
   iii) Biosystematics   iv) Cladistics

n. A genus have only species is called:
   i) Monotype   ii) Unispecific
   iii) Polytypic   iv) None of these

o. One of the most important functions of botanical gardens is that:
   i) One can observe tropical plants there.
   ii) They provide the natural habitat for wild life.
   iii) They allow ex-situ conservation of germplasm.
   iv) They provide a beautiful area for recreation.

p. The evolutionary history on any group of organism is termed:
   i) Ontogeny   ii) Phylogency
   iii) Phenology   iv) Affinity

q. The new Systematics introduced by Sir Julian Huxley in 1940 is known as:
   i) Biosystematics   ii) Cladistics
   iii) Phenitics   iv) Numerical taxonomy

r. Arrange the following in the ascending order of Linnaean hierarchy:
   i) Kingdom – Phylum – Class – Order – Family – Genus – Species
   ii) Kingdom – Family – Genus – Species – Class – Phylum – Order
   iii) Kingdom – Order – Species – Genus – Class – Family – Phylum
   iv) Species – Genus – Family – Order – Class – Phylum – Kingdom

s. Classical taxonomy is also termed as:
   i) Beta taxonomy   ii) Systematic Botany
   iii) Descriptive taxonomy   iv) Experimental Taxonomy

t. Practical purpose of taxonomy or classification:
   i) To know the evolutionary history.
   ii) To explain the origin of organisms.
   iii) To facilitate the identification of unknown species.
   iv) To identify medicinal plants.

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